

CLAIMS

What is claimed is:

1. A vehicle door latch mechanism for releasably retaining a door comprising:  
a latch bolt having a closed condition capable of retaining a striker and an open  
5 condition capable of releasing said striker;  
a pawl releasably securing said latch bolt in said closed condition; and  
a retention plate including at least one mouth co-operating with said latch  
mechanism to releasably retain said striker, an at least one pivot pin hole defining a pivot  
pin hole surface for a pivot pin, and at least one fixing system for fixing said latch  
10 mechanism in an operating position, said latch bolt, said pawl and said retention plate co-  
operating to releasably retain said striker and at least one of said latch bolt, said pawl and  
said retention plate is made from a plurality of structural laminations of material.
2. The latch mechanism as recited in claim 1 wherein said pivot pin is secured to said  
15 retention plate in said pivot pin hole.
3. The latch mechanism as recited in claim 1 wherein said pivot pin is pivotally mounted  
in said pivot pin hole.
- 20 4. The latch mechanism as recited in claim 1 wherein said latch bolt includes a plurality  
of latch bolt laminations.

- 5 5. The latch mechanism as recited in claim 4 wherein said plurality of latch bolt laminations combine to form a closed abutment surface, a first safety abutment surface for contact with said pawl of said latch mechanism, a retention surface for engagement with said striker associated with said latch mechanism and a latch pivot pin surface.
6. The latch mechanism as recited in claim 1 wherein said pawl includes a plurality of pawl laminations.
- 10 7. The latch mechanism as recited in claim 6 wherein said plurality of pawl laminations combine to form an abutment surface for engagement with a closed abutment surface and first safety abutment surface of said latch bolt and a pawl pivot pin surface.
- 15 8. The latch mechanism as recited in claim 1 wherein said retention plate includes a plurality of plate laminations.
9. The latch mechanism as recited in claim 8 wherein said plurality of plate laminations which combine to form said mouth for receiving said striker and a plate pivot pin hole.
- 20 10. The latch mechanism as recited in claim 8 wherein said plurality of plate laminations co-operate to provide said fixing system to secure said latch mechanism operably in position.

11. The latch mechanism as recited in claim 1 wherein one of said plurality of laminations includes a tab.

5 12. The latch mechanism as recited in claim 11 wherein said tab is located on said latch bolt and is for engagement with a chassis of said latch mechanism.

13. The latch mechanism as recited in claim 11 wherein said tab is located on said pawl.

10 14. The latch mechanism as recited in claim 11 wherein said tab is located on said retention plate.

15 15. The latch mechanism as recited in claim 1 wherein at least one of said plurality of laminations is non homogeneous such that a strength of said lamination as measured a in first direction is different from a strength of said lamination as measured in a second direction.

20 16. The latch mechanism as recited in claim 15 wherein a first lamination and a second lamination are non homogeneous with a strength of each of said laminations as measured in a respective first direction being different from a strength of said laminations as measured in a respective second direction, said respective first directions of said first and second laminations being aligned.

17. The latch mechanism as recited in claim 15 wherein a first lamination and a second lamination are non homogeneous with a strength of each of said laminations as measured in a respective first direction being different from a strength of said laminations as measured in a respective second direction, said respective first  
5 directions of said first and second laminations being misaligned.

18. The latch mechanism as recited in claim 15 wherein said plurality of laminations are made from steel having a grain structure.

10 19. The latch mechanism as recited in claim 1 wherein said plurality of laminations are at least partially over molded by a non structural plastics material.

20. The latch mechanism as recited in claim 19 wherein said plurality of partially over molded laminations are partially secured by said over molding.

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